Optical USB TouchScreen Driver User Manual （For Linux）

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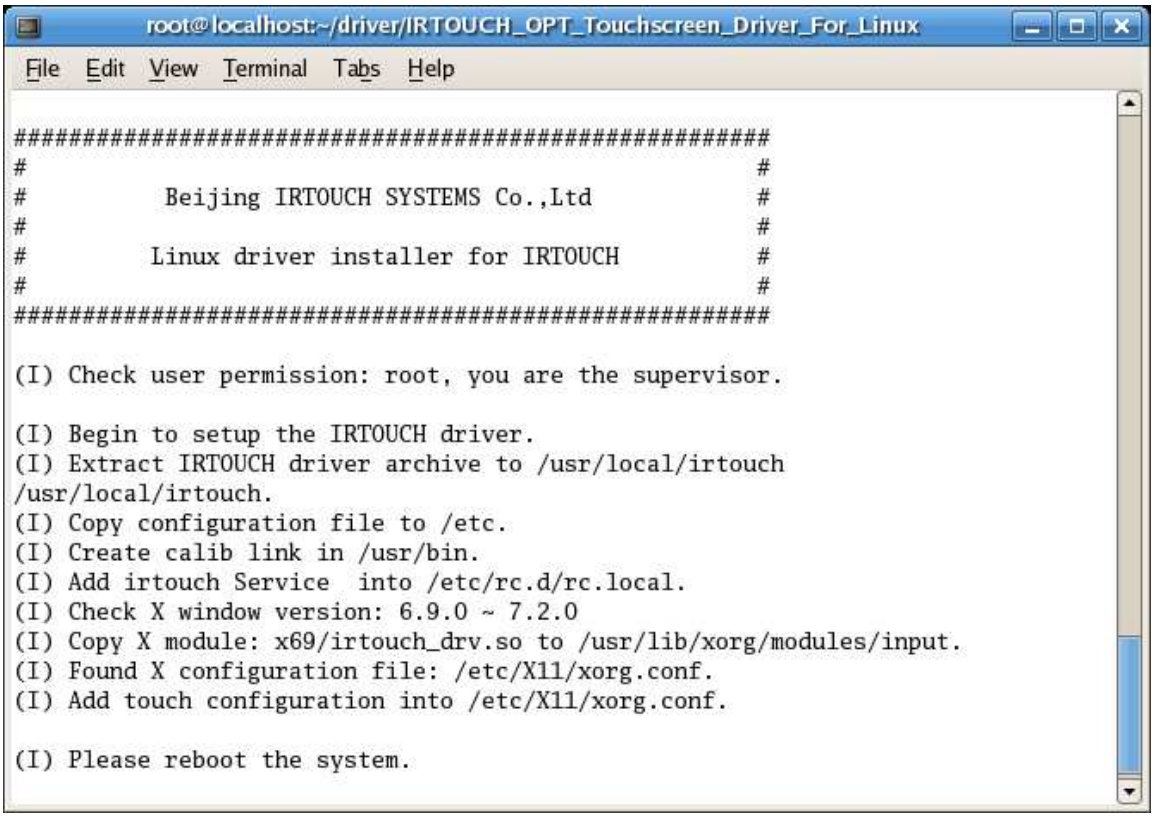
1 Installing Driver

***Notes**: In order to install the driver, you need to run as user "Root".*

Step1：Open a terminal window.

Step2：Unzip the installation file. Folder "IRTOUCH_OPT_Touchscreen_Driver_For_Linux" appears which contains two files: "irtouch.opt.bin.tar.gz" and "setup.sh".

Step3：Run "./setup.sh" and begin to install the driver, as shown in:


root@localhost:~/driver/IRTOUCH_OPT_Touchscreen_Driver_For_Linux
File Edit View Terminal Tabs Help
##
#   #
Beijing IRTOUCH SYSTEMS Co.,Ltd
#   #
Linux driver installer for IRTOUCH
#   #
##
(I) Check user permission: root, you are the supervisor.
(I) Begin to setup the IRTOUCH driver.
(I) Extract IRTOUCH driver archive to /usr/local/irtouch
/usr/local/irtouch.
(I) Copy configuration file to /etc.
(I) Create calib link in /usr/bin.
(I) Add irtouch Service into /etc/rc.d/rc.local.
(I) Check X window version: 6.9.0 ~ 7.2.0
(I) Copy X module: x69/irtouch_drv.so to /usr/lib/xorg/modules/input.
(I) Found X configuration file: /etc/X11/xorg.conf.
(I) Add touch configuration into /etc/X11/xorg.conf.
(I) Please reboot the system.

Step4：Driver installation is complete. Please restart your computer.

Step5：Plug the end of the USB connecting line to the USB port of the computer, and now the touchscreen can be used.

2 Change Driver Process

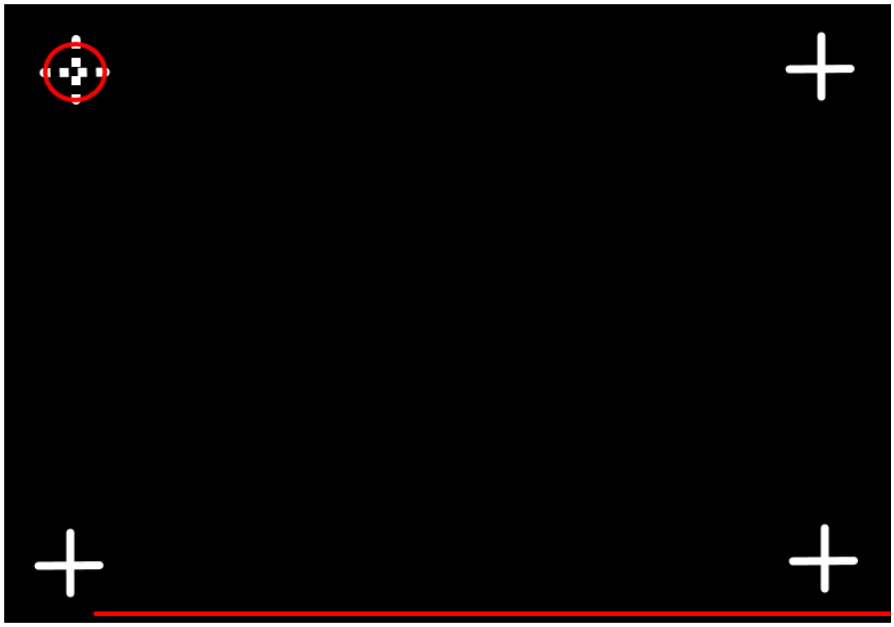
Process corresponding to the driver is “irtouchServer”. Enter into the directory “/usr/local/irtouch/”, and then you can change the driver’s process by running the following commands:

Commends	Change Driver Process
./irtouch.init start	start process “irtouchServer”, and the touchscreen can be used
./irtouch.init stop	stop process “irtouchServer”, and the touchscreen cannot be used
./irtouch.init restart	restart process “irtouchServer”, and the touchscreen can be used

***Notes**: After the driver has been installed, in the absence of exceptional circumstances, the process of “irtouchServer” is always active. It is suggested that you don’t stop the process. If the process is terminated, you can restart the process.*

3 Calibrating

Open a terminal window. Enter into the directory “/usr/local/irtouch/”, run “./calib”, and then the calibration window appears. As shown in:



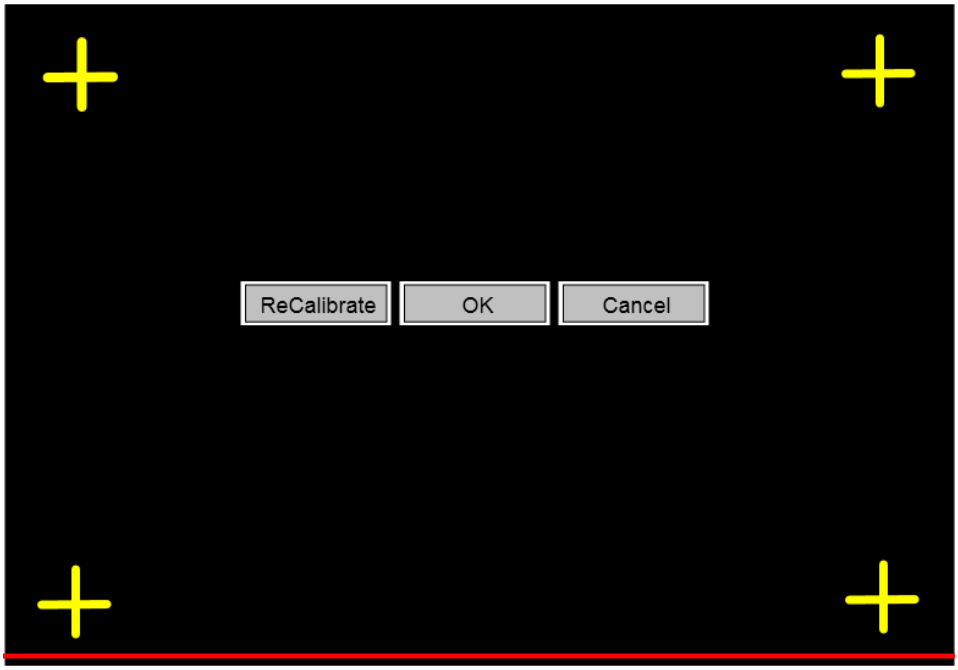
Calibration is done by clicking the center of each flashing butt mark one after the other.

The mode of “Click on Release” (see “4.1 Modes” for reference) is used when calibrating. So you can move the pointer or finger without lift until hitting the center of the flashing butt mark.

After the calibration window appears, you need to begin to calibrate within 30 seconds. Or program will automatically terminate. The red line on the bottom of the screen prompts the rest of the time.

When calibrating, you can press “Esc” key to exit.

After calibration, three buttons appear, as shown in:



- [**ReCalibrate**]： to calibrate again;
- [**OK**]： to save the calibration result and exit;
- [**Cancel**]： to exit without saving the calibration result.

4 Settings

Open a terminal window. Enter into the directory “/etc/irtouch/”, open the config file “optical.conf”. Here you can set the features of the driver. You can set the parameters of the options, and it is effective immediately after been saved. Options and parameters that can be set are shown in the table below:

Items	Options	Optional Parameters	Default Values
Modes	mode	0 (click on touch) 1 (click on release) 2 (touch mode)	2 (touch mode)
Enable/disable touchscreen	enableTouch	0 (disable) 1 (enable)	1 (enable)
Enable/disable right click	enableRightClick	0 (disable) 1 (enable)	0 (disable)
Right Click settings – Delay	rightClickTime	1000~8000ms	1000ms
Right Click settings – Size	rightClickSize	4~32mm	8mm
Touch sensitivity settings - Delay	touchSensitivityDelay	50~1000ms	300ms
Touch sensitivity settings - Area	touchSensitivityArea	0~50mm	5mm
Smoothness settings	smoothness	0~5	1
Enable/disable beep	enableBeep	0 (disable) 1 (enable)	0 (disable)
Beep modes	beepMode	0 (beep on touch) 1 (beep on release) 2 (both)	0 (beep on touch)
Beep type settings	beepType	0 (PC speaker) 1 (sound card)	0 (PC speaker)
PC speaker settings – Frequency	beepFrepuency	50~7000Hz	2000Hz
PC speaker settings – Duration	beepDuration	10~100ms	50ms

***Tips**: For the detailed descriptions of those functions, you can refer to the introduction of the rest of this chapter. You can flexibly set related parameters according to hardware statuses and external factors, so as to achieve the best practical effects. See "Attachment - General setting of the touchscreen (As reference)" for reference.*

4.1 Modes

There are three touch modes:

1. **Click On Touch** (mode=0):

Mouse single click event happens immediately at the point when the finger contacts the touchscreen. The mode is applied only to click objects, but not to drag objects. Touchscreens in the mode responds fastest and are usually used for clicking big buttons. Under this mode, Beep mode that can be used is only "Beep on Touch".

2. **Click On Release** (mode=1):

Mouse single click event happens at the point when the finger leaves the touchscreen. You can move the pointer or finger without lift until you accurately hitting the object that you want to click. Touchscreens in the mode are usually used for clicking small buttons or clicking hyperlinks on a Web page, such as POS and Web applications. Under this mode, Beep mode that can be used is only "Beep on Release".

3. **Touch Mode** (mode=2, default):

Default mode of the driver. Full emulation of mouse functions, including left-clicking, moving, lifting, and dragging objects. The mode is very suitable to the following applications: writing, drawing, and dragging maps. Under this mode, you can choose any mode among the three Beep modes.

4.2 Enable/disable Touch

By default enableTouch=1, touchscreen is enabled. If "enableTouch" is set to 0, touchscreen will be

disabled.

4.3 Enable/disable Right Click and Settings

By default enableRightClick=0, function of right click is disabled. If “enableRightClick” is set to 1, the function will be enabled. Click and press on any area of the screen for a while, then the right-click pop-up menu will appear. This function is only available in “Touch Mode” mode.

You can set the features of the function:

① **rightClickTime** (delay)：to set the pop-up time, the higher the value, the slower the pop-up time, range from 1000~8000 (unit: millisecond).

② **rightClickSize** (size)： to adjust the jitter-range of the touch surface within limit of error, the higher the value, the wider the jitter-range, range from 4~32 (unit: millimeters).

After setting, right-click menu will pop up so long as the finger contacts the screen for a while (rightClickTime) within the range (rightClickSize).

4.4 Touch Sensitivity Settings

Through touch sensitivity settings, you can set a number of touch delay (touchSensitivityDelay) to allow a time for the fingers’ lifting and dropping when touching. You can also set an allowed touch scope (touchSensitivityArea) as the fingers’ stay area.

You can set the features of the function:

① **touchSensitivityDelay** (delay)： to adjust the number of touch delay, the higher the value, the longer the delay time, range from 50~1000 (unit: millisecond).

② **touchSensitivityArea** (area)： to adjust the effective area of the touch scope, the higher the value, the wider the effective area, range from 0~50 (unit: millimeter).

4.5 Smoothness Settings

You can set the value of “smoothness”, from 0 to 5.

***Tips**: The higher value of the smoothness, the better effect of writing or drawing, but the higher requirement of the computer system configuration. The lower value of the smoothness, the faster of writing or drawing. It is recommended that you use the default setting (the value set to 1).*

4.6 Enable/disable Beep and Settings

By default enableBeep=0, beep mode is disabled. If “enableBeep” is set to 1, beep mode is enabled. As a result, when mouse click event happens, a sound tip prompts. You can set the features of the function.

There are three beep modes:

1. **Beep On Touch** (beepMode=0, default)：

   sound tip prompts immediately when the finger contacts the touchscreen.

2. **Beep On Release** (beepMode=1)：

   sound tip prompts at the point when the finger leaves the touchscreen.

3. **Both** (beepMode=2)：

   sound tip prompts when the finger contacts and leaves the touchscreen. Under this mode, only “Touch Mode” can be used.

You can set the features of the mode:

1. **PC Speaker** (beepType=0, default)：

send out beep through the default PC card, and you can adjust the frequency (beepFrequency, range from 50~7000, unit Hz)and duration (beepDuration, range from 10~100, unit millisecond) of beep to change the sound.

2. **Sound Card** (beepType=1)：

   send out sound through the sound card.

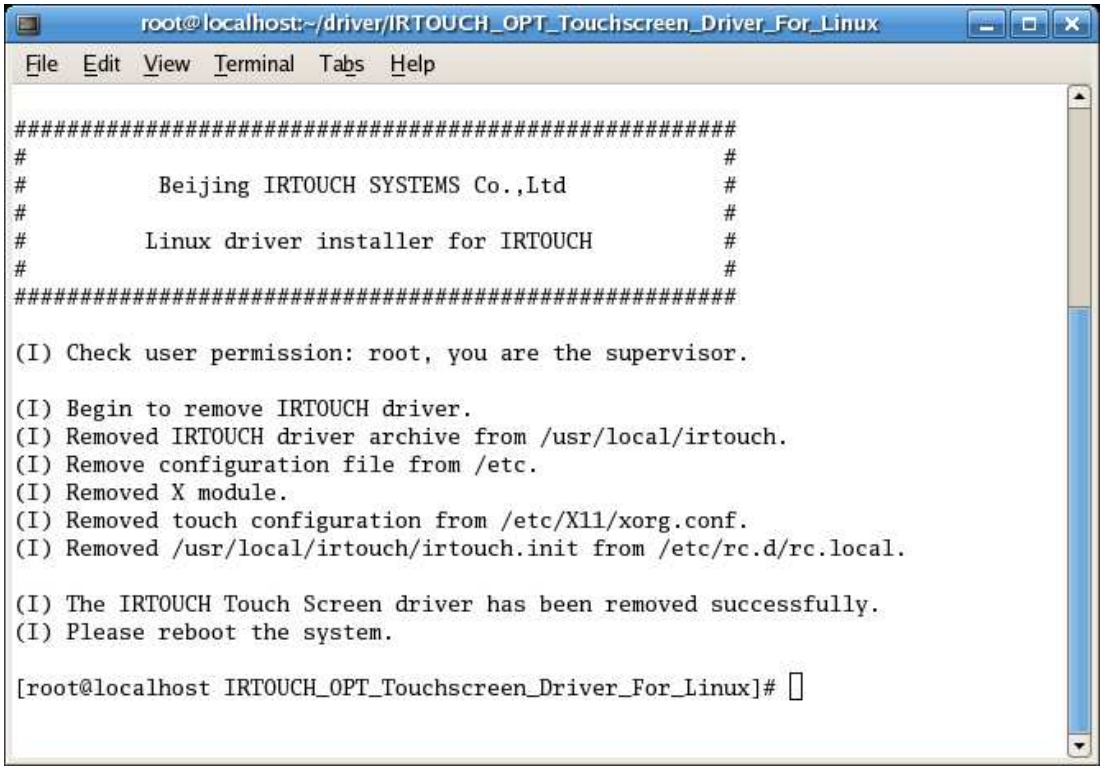
***Notes**: "PC Speaker" and "Sound Card" are mutually exclusive, you can only choose one of them.*

5 Uninstallation

***Notes**: In order to uninstall the driver, you need to run as user "Root".*

Step1：Open a terminal window.

Step2：Run command "./setup.sh uninstall" in the installation directory of driver and begin to uninstall the driver, as shown in:


root@localhost:~/driver/IRTOUCH_OPT_Touchscreen_Driver_For_Linux
File Edit View Terminal Tabs Help
##
#   #
Beijing IRTOUCH SYSTEMS Co.,Ltd
#   #
Linux driver installer for IRTOUCH
#   #
##
(I) Check user permission: root, you are the supervisor.
(I) Begin to remove IRTOUCH driver.
(I) Removed IRTOUCH driver archive from /usr/local/irtouch.
(I) Remove configuration file from /etc.
(I) Removed X module.
(I) Removed touch configuration from /etc/X11/xorg.conf.
(I) Removed /usr/local/irtouch/irtouch.init from /etc/rc.d/rc.local.
(I) The IRTOUCH Touch Screen driver has been removed successfully.
(I) Please reboot the system.
[root@localhost IRTOUCH_OPT_Touchscreen_Driver_For_Linux]#

Step3：Driver uninstallation is complete.

Attachment - General setting of the touchscreen (As reference)

Recommended settings	Descriptions
mode=2	Touch mode
enableTouch=1	Enable touch
enableRightClick=1	Enable right click
rightClickTime=1000	Delay time is 1000ms (1s) and size is 8mm for right click
rightClickSize=8	
touchSensitivityDelay=300	Delay time is 300ms (0.3s) and area is 5mm for touch sensitivity
touchSensitivityArea=5	
smoothness=1	Smoothness is set to 1
enableBeep=0	Whether enable beep mode depends on your actual conditions
beepMode=0	
beepType=0	
beepFrepuency=2000	
beepDuration=50	

(Please refer to the User Manual for detailed information.)